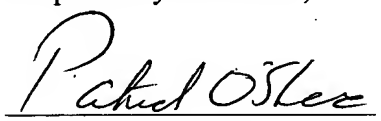
REMARKS

The specification and claims have been amended following the translation of the application from German to English. Claims 1-22 have been amended and claims 23-30 have been cancelled. Claims 1-22 remain for consideration. No new matter has been added.

Examination on the merits is respectfully requested.

If a telephone interview could assist in the prosecution of this application, please call the undersigned attorney.

Respectfully submitted,



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~~Specification~~

~~"Device and Method for Searching and Processing of Data in a Mass Storage"~~DEVICE AND METHOD FOR SEARCHING AND PROCESSING OF DATA IN A MASS STORAGE

PRIORITY INFORMATION

This patent application claims priority from International patent application PCT/EP2004/003225 filed March 26, 2004, German patent application 103 14 376.9 filed March 28, 2003, and German patent application 103 39 185.1 filed August 26, 2003, which are hereby incorporated by reference.

BACKGROUND OF THE INVENTION

The invention relates ~~to~~ in general to data storage and retrieval techniques and in particular to a device and a method for searching and processing of data in a mass storage device.

Search engines are known for use with ~~from~~ the Internet~~,~~ in which after one enters a search term, ~~list~~ the pages corresponding ~~connected~~ to the search term are listed from among a large number of Internet pages. Such ~~a~~ searching within a large quantity of data not normally assembled manually by a single person is typically necessary to locate ~~find~~ the desired information, since it is not practical ~~possible~~ to search through the entire quantity of data by hand.

Furthermore, known devices having ~~are known with~~ a sufficiently large hard disk~~, that~~ can save relatively large quantities of audio and video transmissions or text files. For example,

one can store about 1000 ~~different pieces of~~ music files on a hard disk with a storage capacity 5 GB. Meanwhile, hard disks with a storage capacity of 100 GB are known. In the foreseeable future, the storage capacity of hard disks may ~~might be~~ increased by several orders of magnitude. ~~In order t~~To find desired data on hard disks with capacities of such orders of magnitude, one typically utilizes various ~~requires optimized~~ search engines. However, it is desirable ~~should be possible~~ for a user to carry such devices ~~along with him~~ in a mobile manner ~~fashion~~.

Thus, such devices should be as relatively small, lightweight, easy to use and readily accessible ~~and handy~~ as possible. Yet, ~~However, the~~ use of such devices is often complicated. For example, palmtops are known, which basically comprise ~~represent~~ miniaturized laptop computerss. Despite their small size, palmtops ~~they~~ typically have to be placed on a surface for proper operation. ~~in order to work, which is often done on the knees. In order~~ tTo enter text as fast as possible, the keyboard is generally ~~should be~~ operated with both hands.~~,~~ Thus, oftentimes ~~so that the~~ device ~~cannot be grasped firmly~~ and is relatively ~~. Thus, the device is very~~ unstable in its positioning. Additional problems are caused by the miniaturized keyboard, since the user ~~one~~ often undesirably depresses several keys at the same time with one finger.

Moreover, devices are known ~~which~~ havinge a keyboard ~~and~~ whose keys are typed with a stylus. The keyboard and its space requirement on such a ~~the~~ device are ~~have~~ thus ~~been~~ reduced, but the handling may ~~is~~ not be simplified~~,~~ since ~~once again~~ an keyboard entry may typically require ~~is only possible with~~ both hands.

A keyboard with a relatively smaller number of keys is known from mobile or wireless telephones.~~,~~ Here ~~but~~ each key may be ~~is~~ assigned several meanings. In this way, single-hand operation of a device becomes possible. However, the handling of the device itself may be ~~is~~ more difficult, since oftentimes it may ~~is~~ not be immediately evident how to select the different

meanings of the keys. In particular, ~~in order~~ to operate the device without error, the device ~~must~~ reports back the meaning assigned to the last key stroke. To achieve ~~For~~ this, such devices generally require a screen, which needs to be as large as possible so that what is displayed ~~written~~ on the screen is easily legible.

Besides entry by key typing, voice entry is also known, but this can leads to incorrect ~~wrong~~ results if for example, one does not speak clearly.~~,~~ ~~and t~~There ~~is~~ also exists character recognition of text written by hand on a screen, but this can also produces incorrect ~~wrong~~ results if the writing is shaky.

A single-key operation is known from the computer mouse. However, this operation is usually coupled with a two-dimensional motion of the mouse, for which a smooth surface is required. Furthermore, typically a ~~an especially~~ large screen is necessary ~~in order~~ to properly display the different menu items ~~without problem~~ on the screen without viewing problems. The text may becomes illegible on smaller screens.

A ~~The~~ Morse key enables text to be entered using a single key switch. In most instances, ~~the~~ Morse keying is used for wireless transmission of text from a sender to a remote receiver. U.S. Patent ~~The document US~~ 6,418,323 ~~B1~~ discloses a mobile telephone that ~~which~~ is fitted with a Morse key so that one can hold private telephone conversations even in public by relaying the desired text via Morse code to the user of a ~~the~~ second mobile telephone. A setting up and testing of the operating module of an electronically controllable device by ~~means of~~ a Morse key is known from German patent application DE 197 56 042 A1. Here, the device being tested issues on demand the current sending or receiving frequency, for example, by ~~means of~~ Morse code.

What is needed is a technique that simplifies ~~The problem of the invention is to simplify~~

the searching and processing of data in a mass storage.

SUMMARY OF THE INVENTION

~~The problem is solved according to the invention by a device for searching and processing of data in a mass storage according to Claims 1 and 23, and a method for searching and processing of data in a mass storage according to Claims 12 and 20.~~

A ~~The~~ device ~~according to the invention~~ for searching and processing of data in a mass storage device includes~~comprises~~ a housing with an acoustic and/or optical output unit ~~and a search function.~~, ~~wherein a~~A key unit ~~is fashioned~~ on the housing allows for entry of Morse code or Morse-like symbols in two input modes.~~,~~ A ~~the~~ first input mode facilitates the ~~being designed for~~ entry of text and the second input mode facilitates the ~~for~~ entry of control commands. Through ~~Thanks to the~~ use of Morse code or Morse-like symbols for the entry of text, the number of required keys is significantly reduced.~~,~~ This ~~which~~ represents ~~in particular~~ a substantial space savings as compared to a typical keyboard for text entry. Since two entry modes are used ~~needed~~ during the searching and processing of data ~~, namely,~~ (i.e., the entry of the actual text and the entry of control commands), the separation ~~according to the invention~~ of these two different types of inputs into two entry modes reduces ~~helps avoid~~ uncertainty as to which entry mode the device is using. ~~In one advantageous embodiment of the invention, t~~The key unit may comprise ~~consists of~~ two separate keys, one key facilitating the ~~being designed for~~ entry of text and the second key the ~~for~~ entry of control commands. Thus, for example a user of the device ~~one~~ can ~~clearly~~ distinguish whether the term "execution" means to search within data or whether this term is an instruction to perform a search~~, for example~~.

Also, ~~Another advantage of~~ the entry of control commands by ~~means of~~ Morse code or

Morse-like symbols allows ~~is that terms of~~ normal speech to ~~can~~ be used as command words, thus ~~and no~~ code words are not required. By "Morse-like symbols" is also meant different relations between short and long key operations including ~~than~~ those prescribed by Morse code, and a different rhythmic translation of the alphabet into sequences of long and short key operations or sequences of light and firm key pressures.

~~In order t~~To operate the device for searching and processing of data in a mass storage device with a single key, both keys within the key unit may be located ~~are~~ in one element, for example, a wheel. The wheel ~~which~~ can lock into two positions, for example a sliding controller~~,~~ that ~~which~~ can be moved into two positions, or a rocker that ~~which~~ can be flipped into two positions.~~, and t~~The element can be operated in both positions as a key unit for entry of Morse-like symbols. As an alternative, both key functions may be ~~are~~ combined in a single key unit~~,~~ whereby ~~and~~ one can switch between the two entry modes by ~~means of~~ a particular Morse ~~code~~symbol or Morse-like symbol. ~~Once again, t~~The key unit can be fitted with a flipping, sliding, or turning function ~~in order~~ to enable a switching between the two entry modes ~~by a flipping, sliding, or turning forward and back again~~.

The text entered by ~~means of~~ the first key may comprise ~~consists primarily of~~ search terms that ~~to~~ define the data search. ~~By s~~Search terms refers ~~is meant~~ not only to complete words, but also to individual letters or syllables or combinations of letters that ~~which~~ occur in the ~~indicated~~ sequence in the search term, such as for example all of the consonants. Also, however, the entering of messages, addresses, correspondence, passwords, or other written text, which desirably is to ~~should~~ be taken up without interpretation by the mass storage, may occurs by ~~means of~~ Morse ~~codes~~symbols or Morse-like symbols via the first key. When entering combinations of letters from different words, which are joined by "and," for example, one may

~~must~~ define a blank symbol ~~in order~~ to coordinate the letters with the different words, for example, using a relatively ~~an especially~~ long pause or a special symbol. A blank symbol may ~~preferably always~~ defines a linking of the terms or sequences of letters with "and" ~~preferably~~ in the search mode.

~~In one advantageous embodiment of the invention, e~~Each of the two keys may be ~~is~~ located on each of a corresponding ~~arranged at~~ one of the two long sides of the housing. This allows ~~operation~~ for operation of the first key with the thumb and the second key with the index finger, while the housing can be held in the palm. This typically allows the ~~One's~~ view of a ~~the first~~ screen to remains unobstructed~~free~~. Such an arrangement of the two keys allows both right- and left- handed persons ~~people~~ to operate the device ~~equally~~.

The output unit may comprise~~can consist~~, for example, ~~of~~ a light-emitting diode (LED), an integrated loudspeaker, or a connection for a headphone. A device for acoustic output of information regarding ~~on~~ search results offers the advantage of stating the number of results found, ~~so as~~ to inform the user relatively ~~as~~ quickly ~~as possible~~ whether the ~~his~~ search may ~~should~~ perhaps ~~possibly~~ be limited by additional search terms. The mechanical output unit can be an additional key unit.~~,~~ Alternatively, ~~or~~ one of the two keys ~~units~~ for entry of search terms or commands may comprise the output unit. ~~can serve, being able to~~ As such, the key may move under electronic control at the rhythm of Morse code or Morse-like symbols, and a user can feel the movement. Such an output unit is generally ~~totally~~ noise-free and can also be used when talking to others without ~~the conversation~~ being disturbed by acoustic output from the device or looking at the screen or the LEDs ~~light diodes~~. A screen may be used ~~is especially preferred~~ as the output device, since this enables a quick glance at the text.

~~In an especially advantageous embodiment of the invention, a~~A screen or separate

screens may be ~~is~~ arranged on both the front and back side of the housing. This way, ~~On the one hand,~~ it may be ~~is~~ possible to display larger portions of result lists ~~in this way~~. ~~But t~~The screens can also be assigned different functions, e.g., the display of two different searches or the display of a search result on one screen and a written text on the second screen. Also a second screen, allows ~~furthermore, is advantageous when~~ several people ~~want~~ to view ~~look at~~ the screen at the same time, for example, to view picture files such as digital photos. ~~or the like.~~ If the photo is displayed on both screens at the same time, several people can look at the screen from different positions.

~~In one advantageous embodiment of the invention, a~~A wheel may ~~is~~ additionally be located ~~formed~~ on the housing for moving the screen contents. This facilitates the reading of the search results or the scrolling in written text.

~~Preferably, t~~The text of the search terms entered by ~~means of the~~ Morse code or Morse-like symbols may be ~~is~~ visible on the screen in the top line. As such ~~Thus~~, the user has direct control over the ~~his~~ symbols entered, making possible a correction if necessary.

~~Preferably t~~The mass storage device may be ~~is~~ arranged in a portable storage device~~unit~~. An entry by ~~means of~~ a Morse key allows for ~~is especially~~ space-saving for portable devices, which generally are designed to be ~~need to be~~ as small and easy to use ~~handy~~ as possible. Through ~~Thanks to~~ the entry of text and control commands by ~~means of~~ a single key unit, a portable device need ~~does~~ not ~~have to~~ be placed ~~set down~~ on a surface for use ~~in order to be used~~.

~~In the method according to the invention for searching and processing of data in a mass storage, Morse symbols or Morse-like symbols are entered in two entry modes via a key unit, text being entered in the first mode and control commands in the second mode.~~

~~In one advantageous embodiment of the method for searching for data in a mass storage,~~

~~t~~The entire list or some portion of the ~~of~~ available data may be displayed ~~is shown~~ on the screen for example at device startup~~in the beginning.~~; ~~and even t~~The entry of a single letter as the search term may ~~will~~ alter the sequence of data in the list. As ~~With~~ such, ~~a search method,~~ often the mere entering of a letter, syllable or a sequence of letters occurring in that sequence in the search term, or all the occurring consonants of the search term, may ~~will~~ be enough to filter out the desired data, thereby saving time. ~~Thus, the search method is especially optimized in time.~~

~~Preferably, t~~The control commands can be entered in any given language. If the individual actions of the device are associated with certain terms, the entering of terms such as "enter," "execute" or "execution" will initiate a ~~the starting of a~~ search. Thus, the control commands can be entered relatively unambiguously.~~, which facilitates the operation of the device according to the invention.~~

~~Preferably, one can enter r~~Rhythms can be entered as search terms, corresponding for example not to any text or letters but rather to a melody of a particular song. This facilitates the searching for particular music titles when the user knows only the melody, but not the particular title of a ~~piece of~~ music file.

Furthermore, ~~in one advantageous embodiment of the invention~~ passwords can be entered as text, which may comprise ~~consist of~~ a rhythm. This ~~allows for an extensive~~ protect~~sion~~ against unauthorized access to password-protected files, since such passwords are generally not listed in any dictionary or lexicon.

~~Advantageously, t~~The user can be identified by a ~~means of the~~ pattern of Morse ~~symbols~~ code or Morse-like symbols.

~~In an alternative method of the invention for searching and processing of data in a mass storage,~~ Morse code~~symbols~~ or Morse-like symbols may be ~~are~~ entered in at least one entry

mode designed for entry of text via a key unit.~~, and s~~Search terms may be ~~are~~ entered to carry out a search in one entry mode.~~, and a~~At the start of the search the entire or some portion of the list of data present on the mass storage may be ~~is~~ indicated on a screen. ~~and merely t~~The entry of for example one letter as the search term may correspondingly alters the sequence of data in the list or may hides those data not corresponding to the search term.

~~In such a search method, it is o~~Oftentimes it may suffice ~~sufficient~~ to ~~merely~~ enter one syllable or one sequence of letters occurring in that sequence in the search term, or all the consonants occurring in the search term, to filter out the unwanted data. ~~Thus, the search method is especially optimized in time.~~

~~By Morse-like symbols can also be understood other relations between short and long key operations than those prescribed by Morse code, a different rhythmic translation of the alphabet into sequences of long and short key operations, or sequences of light and firm key pressures.~~

The search method may ~~preferably~~ requires ~~only~~ a single entry mode. As such, ~~Advantageously, therefore,~~ the key unit may comprise ~~consists of only~~ a single key.

~~Furthermore, h~~However, additional entry modes can be provided on the key unit for other ~~the complete~~ operations by ~~of~~ the device~~,~~ (e.g., for entry of control commands)~~.~~, ~~as described in the first method of the invention. Nor is it excluded to provide~~ Also, more than two entry modes may be provided~~,~~(-e.g., for simultaneous performance of several searches or entry of control commands on different levels), for which ~~preferably~~ the key unit may also haves more than two keys and/or a key with more than two operating positions. ~~Possible configurations of the key unit for entry of Morse symbols or Morse-like symbols in two entry modes have already been described for the first device of the invention and can also, of course, be applied to a device for~~

~~implementation of the alternative method of the invention.~~

~~Preferably, one can enter, as search terms, rhythms corresponding not to any text or letters, but rather to a melody of a particular song. This facilitates the searching for particular music titles if the user only knows the melody, but not the particular title of a piece of music.~~

~~Advantageously, the user can be identified by means of the pattern of Morse symbols or Morse-like symbols.~~

~~The device of the invention for carrying out the alternative method of the invention for searching and processing of data in a mass storage comprises a housing with an acoustic and/or optical output unit and a search function, wherein a key unit is fashioned on the housing for entry of Morse symbols or Morse-like symbols in at least one entry mode, wherein one of the entry modes is designed for entry of text when carrying out a search. Thanks to the use of Morse symbols or Morse-like symbols for entry of text, the number of required keys is significantly reduced, which represents in particular a substantial space savings as compared to a keyboard for text entry.~~

~~In general, a single entry mode is sufficient to perform a search. Advantageously, therefore, the key unit consists of at least one key, which is fashioned to enter Morse symbols or Morse-like symbols in precisely one entry mode, designed for entry of text when performing a search. However, the key unit can also have additional keys which are suitable for additional entries, e.g., for controlling the device, in additional entry modes. The additional keys need not necessarily be suitable for entry of Morse symbols or Morse-like symbols; they can be any known control device based on keys, such as a key pad similar to the familiar key pads of mobile telephones.~~

~~The text entered by means of the first key consists primarily of search terms to define the~~

~~data search. By search terms is meant not only complete words, but also individual syllables or combinations of letters which occur in that sequence in the search term, such as all the consonants. In the case of entering combinations of letters from different words, which are linked by "and" for example, a blank symbol has to be defined in order to assign the letters to the different words, e.g., using an especially long pause or a special symbol. A blank symbol preferably always defines a linkage of the terms of the letter sequences by "and" in the search mode.~~

~~The output unit can consist, for example, of a light-emitting diode, an integrated loudspeaker, or a connection for a headphone. A device for acoustic output of information on search results offers the advantage of stating the number of results found, so as to inform the user as quickly as possible whether his search should possibly be limited by additional search terms. The mechanical output unit can be an additional key unit, or one of the two key units for entry of search terms or commands can serve, being able to move under electronic control at the rhythm of Morse code or Morse-like symbols, and a user can feel the movement. Such an output unit is totally noise-free and can also be used when talking to others without the conversation being disturbed by acoustic output from the device or looking at the screen or the light diodes. A screen is especially preferred as the output device, since this enables a quick glance at the text.~~

~~In an especially advantageous embodiment of the invention, a screen is arranged on the front and back side of the device. On the one hand, it is possible to display larger portions of result lists in this way. But the screens can also be assigned different functions, e.g., the display of two different searches or the display of a search result on one screen and a written text on the second screen. A second screen, furthermore, is advantageous when several people want to look at the screen at the same time. If the search result is displayed on both screens at the same time,~~

~~several people can look at the screen from different positions.~~

~~In one advantageous embodiment of the invention, a wheel is additionally formed on the housing for moving the screen contents. This facilitates the reading of the search results or the scrolling in written text.~~

~~Preferably, the text of the search terms entered by means of the Morse symbols is visible on the screen in the top line. Thus, the user has direct control over his symbols entered, making possible a correction if necessary.~~

~~Preferably the mass storage is arranged in a portable storage unit. Entry by means of a Morse key is especially space-saving for portable devices, which need to be as small and handy as possible. Thanks to the entry by means of a single key unit, a portable device does not have to be set down on a surface in order to be used.~~

These and other objects, features and advantages of the present invention will become more apparent in light of the following detailed description of preferred embodiments thereof, as illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

~~In the following, two exemplary embodiments of the invention will be explained in detail with reference to the drawings:~~

FIG.~~igure~~ 1 is a perspective ~~front~~ view of an embodiment of a portable storage device ~~an exemplary embodiment of the invention~~; and

FIG.~~igure~~ 2 is a perspective ~~front~~ view of another embodiment of a portable storage device ~~an alternative exemplary embodiment of the invention~~.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIG.~~igure~~ 1, ~~shows~~ a portable storage device includes ~~unit with~~ a housing 10~~;~~ in which a mass storage device is arranged.~~,~~ ~~on which a~~A relatively large quantity of data, such as ~~pieces of~~ music files, video files ~~transmissions~~, photos and text files, may be ~~are~~ saved in the mass storage device. On each of ~~At the~~ two long sides 14 and 16 of the housing 10, a corresponding left ~~there is arranged one~~ key 20 and a right key 22 are located. ~~each, so that t~~The keys 20 and 22 can be ~~easily~~ operated with the thumb and index finger of one hand, when the housing 10 lies with its ~~the~~ front side 12 or ~~the~~ back side 18 in the palm of the user's hand.

The keys 20 and 22 may comprise ~~are fashioned as~~ Morse keys.~~,~~ ~~while t~~The left key 20 may be ~~is~~ used to enter text, such as search terms or key words for a text being processed.~~,~~ ~~and t~~The right ~~second~~ key 22 may be ~~is~~ used to enter control commands for the mass storage.

On the front side 12 and the back side 18 of the housing 10 ~~there~~ is arranged a screen or pair of screens 30, extending for example over nearly the entire surface of the front side 12 and the back side 18.

On one of the two long sides 14 and 16 of the housing 10 is arranged a wheel 24, by which the content displayed on ~~of~~ the screens 30 can be moved. In FIG. 1, the wheel 24 is located on the right side 16 of the housing 10. Also located on the right

~~Furthermore, at the long~~ side 16 ~~there~~ is ~~arranged~~ a socket 26 for connection to, for example, ~~of~~ a headphone.

~~One possible use of the device by a user will be described hereinbelow.~~

If no separate button ~~is present for~~ turn~~sing~~ the device on and off, the user can turn on the device by typing the word ~~term~~ "on" using the right key 22. The user can then, for example, ~~He would now like to~~ scroll through the available ~~pieces of~~ music files by titles, for example, those

of the Beatles. To do ~~For~~ this, the user may ~~he first~~ uses the right key 22 to type the words ~~terms~~ "search music pieces." On the screen 30 appears a ~~the entire~~ list of ~~all the~~ stored ~~pieces of~~ music files. If several identical devices are within range of the device currently in use, ~~of the user, it is possible by means of~~ a wireless interface may be used to exchange data between the several ~~two~~ devices such ~~so~~ that ~~all the freely~~ available data within ~~of the~~ one device is displayed in the list of the other devices. Such available data from the other devices may be ~~is specially~~ marked in the list.~~;~~ This way, ~~so that~~ the user can copy the corresponding data onto ~~his~~ the ~~own~~ hard disk of the user's device.~~, if required.~~

With the left key 20, the user may ~~now~~ enters the sequence of letters "BEA." Alternatively, the user may ~~he could also~~ enter another term such as "Beatles," "BTLS" or "BTS." Once entered, ~~T~~the sequence "BEA" may appears in the top line of the screen 30. The ~~pieces of~~ music files are ~~now~~ searched to find the sequence of letters "BEA," whether in the title, name of performer, or in some other information about the ~~pieces of~~ music files. Since ~~the~~is sequence of letters "BEA" occurs ~~in particular~~ in the word "Beatles," the titles of the music files of the Beatles and possibly other titles may then be placed at ~~will go to~~ the top ~~head~~ of the list of available ~~pieces of~~ music files. The user may then hears through the headphone, for example, the announcement "25" and from that knows that a total of 25 titles of music files have been found in the mass storage having ~~containing~~ the combination of letters "BEA." ~~Alternatively, t~~The two entry keys ~~unit~~ 20, 22 can also be used as mechanical output devices, since the keys 20, 22 may ~~unit as it~~ moves in ~~an appropriate~~ rhythm while the user lightly places his finger on the keys 20, 22 ~~it in order~~ to feel the movement of the keys.

By using the wheel 24, the user can select a desired ~~now choose which pieces of~~ music file to listen to from ~~in~~ the list of results. ~~he would like to listen to.~~ Once the desired title is

selected, the user ~~he~~ can start playing the ~~piece of~~ music file by typing the term "play" using the right key 22.

While the desired ~~piece of~~ music file is playing, the user for example may ~~would like to~~ view ~~some~~ photos. For this, the user may ~~he first~~ uses the right key 22 to type "search photos." With the left key 20, the user may ~~he~~ enters "vacation 2000" as the search term, and then receives a list of corresponding picture files. Using the wheel 24, the user ~~he~~ can select a particular one of the photos and, after entering a term such as "view" or "enter" with the right key 22, the desired picture appears on the screen 30. ~~As an alternative, t~~The wheel 24 can also ~~likewise~~ be provided with a "print" function[1] to enable the user to send the desired picture to a printer for printing.~~, which replaces the "enter function."~~

The desired photo may ~~will~~ be displayed on both the front and rear screens 30, so that a person sitting opposite the user can also ~~likewise~~ view the photo. After the ~~first piece of~~ music file stops playing, the user may desire ~~would like~~ to listen to a ~~piece of~~ music file the ~~whose~~ melody of which the user is familiar with but is unfamiliar with ~~he knows, but not~~ the title or performer. Using the right key 22, the user may ~~he~~ enters "search music rhythms" and then uses the left key 20 to enter the rhythm of the melody of the music file~~piece~~. The list of results may shows for example two hits, the first of which the user may ~~he~~ selects by entering "~~P~~play" with the right key 22.

~~In order t~~To make the portable storage device unusable by third parties if lost~~,~~ or ~~especially~~ stolen, the device may require the user to enter ~~ing of~~ a password ~~can be requested after the user turns on~~ after the device is turned on. The passwords may ~~are to~~ be entered using the left key 20 and may comprise ~~can consist~~ either ~~of a~~ Morse code~~term~~ or Morse-like symbols,

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[1] ~~German *Druckfunktion* could also mean "pressing function" but "print function" seems more likely in context. Translator.~~

a combination of letters and/or numbers, or a rhythm from a piece of music. Since the Morse characteristics of different users can have substantial deviations, the device may be ~~is~~ able to recognize the user by a ~~means of the~~ pattern of Morse code or Morse-like symbols. This offers an additional protection when the device is lost or stolen, since another user ~~third party~~ with a ~~significantly~~ different Morse characteristic than the authorized ~~proper~~ user will not be able to use the device, ~~authorized as user,~~ even when entering the correct password.

Protection by ~~means of~~ a code or password which can be entered by ~~means of~~ Morse code~~symbols~~ or Morse-like symbols via a single key saves ~~is especially~~ space-~~saving~~, so that it can be used not only for small portable mass storages, but also generally for small portable devices not having any key pad, such as cameras or video cameras.

Referring to FIG.~~igure~~ 2, ~~shows~~ a portable storage device includes ~~unit to implement the alternative method of the invention, with~~ a housing 40~~,~~ in which a mass storage device is arranged.~~,~~ ~~on which~~ The mass storage device may store a relatively large quantity of data, such as ~~pieces of~~ music files, video files~~transmissions~~, photos, and text files. ~~are saved.~~ On one of the two long left and right sides 44 and 46 of the housing 40~~,~~ (in this case the right ~~long~~ side 46), a key 50 is provided. ~~a key 50, such that~~ tThe key 50 may ~~can~~ be easily operated with the thumb or ~~and~~ index finger of one hand when the housing 40 lies with its back side 48 or front side 42 in the palm of the user's hand.

The key 50 may be ~~is fashioned as~~ a Morse key, and as such the key 50 may be ~~is~~ used to enter text~~,~~ such as search terms or key words for ~~a~~ text being processed~~,~~ when performing a search.

———On both the front side 42 and the back side 48 of the housing 40 ~~there~~ is arranged a screen 60~~,~~ that may extend~~ing~~, for example, over nearly the entire surface of the front side 42 and

the back side 48.

~~On one of the two long sides 44 and 46 is arranged a~~A wheel 54~~,~~ may be located on either the left side 44 or the right side 46. In FIG. 2, the wheel 54 is on the right side 46. Through use of wheel 54, ~~by which~~ the content of the screens 60 can be moved.

Furthermore, ~~at the long side 46 there is arranged~~ a socket 56 may be located on the right side 46 for connection to ~~of~~ a headphone.

~~One possible use of the device by a user will be described hereinbelow.~~

In using the device, ~~T~~the user may ~~would like to~~ search through the ~~music pieces~~ available music files in the mass storage device by searching for Beatles titles. The ~~entire~~ list of ~~all~~ the relevant stored music files may then ~~pieces~~ appears on the screen 60.

Using the key 50, the user may first enters by Morse code or Morse-like symbols the letter "B." On the first line of the screen 60, the letter "B" appears. ~~At the same time, t~~The list presented on the screen may changes in that ~~all~~ the ~~pieces of~~ music files whose title, performer, or other information contains a "B" are moved to the top ~~head~~ of the list, while the ~~pieces of~~ music files whose title, performer or other information does not contains a ~~no~~ "B" are moved farther down ~~to the end of~~ the list. Alternatively, the ~~pieces of~~ music files whose title, performer, or other information does not contains ~~a no~~ "B" may be ~~are entirely~~ hidden from the list.~~,~~ This way, ~~so that~~ the list may becomes shorter with each further entry of additional letters or search terms as the list of relevant number of music files becomes smaller.

~~In the majority of cases,~~ It may be that in a large number of situations, the selection of saved data by entering a single letter will not suffice to locate the desired stored files, in particular ~~yet be sufficiently restricted, especially~~ when several hundred or thousand ~~pieces of~~ music files are saved in the mass storage device. However, by ~~U~~using the wheel 54, the screen

contents can be shifted so that even relatively long lists of search results can be scrolled through relatively quickly.

Using the key 50, ~~T~~the user may ~~additionally~~ also enters ~~with the key 50~~ the letters "E" and "A," so that the sequence of letters "BEA" now appears in the first line of the screen 60. Alternatively, the user may ~~he could~~ also enter, for example, "Beatles," "BTLS" or "BTS." The ~~pieces of~~ music files are ~~now~~ searched ~~through~~ and sorted to determine ~~see~~ whether the sequence of letters "BEA," is located ~~whether~~ in the title, performer, or in some other information about the ~~pieces of~~ music files~~is found~~. Since this sequence of letters occurs ~~in particular~~ in the word "Beatles," the titles of the music files of the Beatles and possibly other titles will be listed at the top ~~go to the head~~ of the list of available ~~pieces of~~ music files. The user may hears through the headphone the announcement "25" and from that knows that a total of 25 titles have been found containing the combination of letters "BEA." ~~Alternatively,~~ ~~T~~the entry key ~~unit~~ 50 can also be used as a mechanical output device, since the key 50 may ~~unit as it~~ moves in ~~an~~ ~~appropriate~~ rhythm while the user lightly places his finger on the key 50 ~~it in order~~ to feel the movement of the key.

By using the wheel 24, the user can select a ~~now choose which pieces of~~ music file to listen to from~~in~~ the list of results. ~~he would like to listen to.~~ For this, the wheel 24 may have ~~can be fitted with~~ a print function[2] that ~~which~~ realizes the "~~E~~enter" function."

The entry of commands can be done via a second Morse key as described hereinabove, ~~in the first exemplary embodiment of the invention~~ or by any known control device utilizing ~~based on~~ keys, such as a key pad similar to familiar mobile telephone key pads.

In addition, another key (not shown in FIG. 2) may ~~could~~ be used in another entry mode

[2] ~~German *Druckfunktion* could also mean "pressing function" but "print function" seems more likely in context. Translator.~~

to enter Morse code or Morse-like symbols for simultaneous performance and display of a second search on the screen 60 located on the back side 48 of the housing 40. ~~Again, i~~It may be ~~is~~ possible to combine either ~~just~~ the keys for entry of Morse code or Morse-like symbols or ~~also~~ all of the keys into a key unit.

~~———~~The key unit may comprise ~~can be fashioned as~~ a wheel~~,~~ that ~~which~~ locks in a number of positions corresponding to the number of entry modes.~~,~~ ~~and i~~In each position a user ~~one~~ can enter Morse code~~symbols~~ or Morse-like symbols. Furthermore, the key unit may comprise ~~can be fashioned as~~ a turning knob or sliding controller~~, which~~ that locks into several positions.~~,~~ ~~and again i~~In each position a user ~~one~~ can enter Morse code~~symbols~~ or Morse-like symbols. It may be ~~is also~~ possible to enter several entry modes in one locked position where the user ~~, and one~~ can switch between the different entry modes, for example, by typing in a certain code. Furthermore, the key unit can have one or two keys for entry of Morse code~~symbols~~ or Morse-like symbols to perform the search on one or two screens and a key pad similar to ~~familiar~~ mobile telephone key pads.

Since the Morse characteristics of different users can have substantial deviations, the device may ~~is able to~~ recognize the user by ~~means of~~ the pattern of Morse code or Morse-like symbols. This offers additional protection when the device is lost or stolen, since another user ~~a third party~~ with a ~~significantly~~ different Morse characteristic than the authorized ~~proper~~ user will not be able to use the device~~authorized as the user~~.

Although the present invention has been illustrated and described with respect to several preferred embodiments thereof, various changes, omissions and additions to the form and detail thereof, may be made therein, without departing from the spirit and scope of the invention.

What is claimed is:

~~List of Reference Symbols~~

~~10 Housing~~

~~12 Front side~~

~~14 Long side~~

~~16 Long side~~

~~18 Back side~~

~~20 Key~~

~~22 Key~~

~~24 Wheel~~

~~26 Socket~~

~~30 Screen~~

~~40 Housing~~

~~42 Front side~~

~~44 Long side~~

~~46 Long side~~

~~48 Back side~~

~~50 Key~~

~~54 Wheel~~

~~56 Socket~~

~~60 Screen~~